

WHAT IS CLAIMED IS:

1. An organic electroluminescent device, comprising:

first and second substrates facing and spaced apart from each other, the first and second substrates having a display area including a plurality of pixel regions and a first peripheral region at one side of the display area;

a first common electrode at the first peripheral region on an inner surface of the first substrate;

a driving thin film transistor at each of the pixel regions on the inner surface of the first substrate, the driving thin film transistor including an active layer, a gate electrode, and source and drain electrodes;

a first connection electrode connected to the drain electrode of the driving thin film transistor at each of the pixel regions;

a second connection electrode connected to the first common electrode at the first peripheral region;

a first electrode on an entire inner surface of the second substrate;

isolating patterns on the first electrode corresponding to each border between the pixel regions;

a first insulating pattern at the first peripheral region on the first electrode corresponding to the second connection electrode;

partition walls on the isolating patterns;

an organic luminescent layer at each of the pixel regions on the first electrode;  
a second electrode on the organic luminescent layer connected to the first connection electrode at each of the pixel regions;  
a first contacting electrode on the first insulating pattern contacting the first electrode; and  
a sealant attaching the first and second substrates.

2. The device according to claim 1, further comprising a first auxiliary electrode and a second auxiliary electrode between the second substrate and the first electrode, wherein the first auxiliary electrode corresponds to the isolating patterns and the second auxiliary electrode corresponds to the first insulating pattern.

3. The device according to claim 1, wherein the first insulating pattern includes a same material as the isolating patterns.

4. The device according to claim 1, wherein the second connection electrode includes a same material as the first connection electrode.

5. The device according to claim 1, wherein the first contacting electrode includes a same material as the second electrode.

6. The device according to claim 1, wherein the active layer includes polycrystalline silicon.

7. The device according to claim 1, further comprising a power line connected to the driving thin film transistor.

8. The device according to claim 7, further comprising a capacitor electrode overlapping the power line to a storage capacitor.

9. The device according to claim 1, wherein the first electrode is an anode for injecting holes into the organic luminescent layer and the second electrode is a cathode for injecting electrons into the organic luminescent layer.

10. The device according to claim 9, wherein the first electrode includes one of indium-tin-oxide (ITO) and indium-zinc-oxide (IZO).

11. The device according to claim 9, wherein the second electrode includes one of calcium (Ca), aluminum (Al) and magnesium (Mg).

12. The device according to claim 1, wherein the first common electrode is disposed at an interior of the sealant.

13. The device according to claim 1, further comprising a second common electrode on the inner surface of the first substrate, a third connection electrode connected to the second common electrode, a second insulating pattern on the first electrode, and a second contacting electrode on the second insulating pattern, wherein the second common electrode, the third connection electrode, the second insulating pattern and the second contacting electrode are disposed at a second peripheral region at another side of the display area, and the second contacting electrode contacts the first electrode and connects to the third connection electrode.

14. The device according to claim 13, further comprising a first auxiliary electrode, a second auxiliary electrode and a third auxiliary electrode between the second substrate and the first electrode, wherein the first auxiliary electrode corresponds to the isolating patterns, the second auxiliary electrode corresponds to the first insulating pattern, and the third auxiliary electrode corresponds to the second insulating pattern.

15. A method of fabricating an organic electroluminescent device, comprising:

- forming an insulating layer on a first substrate having a display area including a plurality of pixel regions and a first peripheral region at one side of the display area;
- forming a driving thin film transistor at each of the plurality of pixel regions on the insulating layer, the driving thin film transistor including an active layer, a gate electrode, and source and drain electrodes;
- forming a first common electrode at the first peripheral region on the insulating layer;
- forming a first connection electrode and a second connection electrode, the first connection electrode connected to the drain electrode, the second connection electrode connected to the first common electrode;
- forming a first electrode on a second substrate;
- forming isolating patterns and a first insulating pattern on the first electrode, the isolating patterns corresponding to each border between the pixel regions, the first insulating pattern at the first peripheral region;
- forming partition walls on the isolating patterns;
- forming an organic luminescent layer at each of the plurality of pixel regions on the first electrode;
- forming a second electrode on the organic luminescent layer;

forming a first contacting electrode on the first insulating pattern and contacting the first electrode; and

attaching the first and second substrates with a sealant such that the first connection electrode contacts the second electrode and the second connection electrode contacts the first contacting electrode.

16. The method according to claim 15, further comprising a step of forming a first auxiliary electrode and a second auxiliary electrode between the second substrate and the first electrode, wherein the first auxiliary electrode corresponds to the isolating patterns and the second auxiliary electrode corresponds to the first insulating pattern.

17. The method according to claim 16, wherein the first and second auxiliary electrodes have a lower resistance than the first electrode.

18. The method according to claim 17, wherein the first and second auxiliary electrodes includes one of chromium (Cr), molybdenum (Mo) and tungsten (W).

19. The method according to claim 15, wherein the step of forming a first contacting electrode is simultaneously performed with the step of forming a second electrode.

20. The method according to claim 15, wherein the first electrode is an anode for injecting holes into the organic luminescent layer, and wherein the second electrode is a cathode for injecting electrons into the organic luminescent layer.

21. The method according to claim 20, wherein the first electrode includes one of indium-tin-oxide (ITO) and indium-zinc-oxide (IZO).

22. The method according to claim 20, wherein the second electrode includes one of calcium (Ca), aluminum (Al) and magnesium (Mg).

23. The method according to claim 15, further comprising steps of forming a polycrystalline silicon pattern connected to the gate electrode and forming a capacitor electrode over the polycrystalline silicon pattern constituting a storage capacitor, the capacitor electrode being connected to the drain electrode.

24. The method according to claim 15, wherein the first common electrode is disposed at an interior of the sealant.

25. The method according to claim 15, further comprising steps of:

forming a second common electrode on the inner surface of the first substrate;  
forming a third connection electrode connected to the second common electrode;  
forming a second insulating pattern on the first electrode; and  
forming a second contacting electrode on the second insulating pattern,  
wherein the second common electrode, the third connection electrode, the second insulating pattern and the second contacting electrode are disposed at a second peripheral region at the other side of the display area, and the second contacting electrode contacts the first electrode and is connected to the third connection electrode.

26. The method according to claim 25, further comprising a step of forming a first auxiliary electrode, a second auxiliary electrode and a third auxiliary electrode between the second substrate and the first electrode, wherein the first auxiliary electrode corresponds to the isolating patterns, the second auxiliary electrode corresponds to the first insulating pattern, and the third auxiliary electrode corresponds to the second insulating pattern.

27. A method of fabricating an organic electroluminescent device, comprising:  
forming a first insulating layer on a first substrate having a display area including a plurality of pixel regions and a first peripheral region at one side of the display area;



forming an active layer on the first insulating layer at each of the plurality of pixel regions, the active layer including polycrystalline silicon, the active layer having source and drain regions;

forming a second insulating layer on the active layer;

forming a gate electrode on the second insulating layer over the active layer;

forming a third insulating layer on the gate electrode, the third insulating layer having first and second contact holes, the first contact hole exposing the source region, the second contact hole exposing the drain region;

forming source and drain electrodes and a first common electrode on the third insulating layer, the source electrode being connected to the source region through the first contact hole, the drain electrode connected to the drain region through the second contact hole, the first common electrode disposed at the peripheral region;

forming a fourth insulating layer on the source and drain electrodes and the first common electrode, the fourth insulating layer having third, fourth and fifth contact holes, the third contact hole exposing the drain electrode, the fourth and fifth contact holes exposing the first common electrode;

forming first and second connection electrodes on the fourth insulating layer, the first connection pattern connected to the drain electrode through third contact hole, the second connection electrode connected to the first common electrode through the fourth contact hole;

forming a first electrode on a second substrate;

forming isolating patterns and a first insulating pattern on the first electrode, the isolating patterns corresponding to each border between the pixel regions, the first insulating pattern at the first peripheral region;

forming partition walls on the isolating patterns;

forming an organic luminescent layer at each of the plurality of pixel regions on the first electrode;

forming a second electrode on the organic luminescent layer;

forming a first contacting electrode on the first insulating pattern and contacting the first electrode; and

attaching the first and second substrates with a sealant such that the first connection electrode contacts the second electrode and the second connection electrode contacts the first contacting electrode.

28. The method according to claim 27, further comprising steps of:

forming a second common electrode on the inner surface of the first substrate;

forming a third connection electrode connected to the second common electrode;

forming a second insulating pattern on the first electrode; and

forming a second contacting electrode on the second insulating pattern,

wherein the second common electrode, the third connection electrode, the second insulating pattern and the second contacting electrode are disposed at a second peripheral region at the other side of the display area, and the second contacting electrode contacts the first electrode and is connected to the third connection electrode.

29. The method according to claim 28, further comprising a step of forming a first auxiliary electrode, a second auxiliary electrode and a third auxiliary electrode between the second substrate and the first electrode, wherein the first auxiliary electrode corresponds to the isolating patterns, the second auxiliary electrode corresponds to the first insulating pattern, and the third auxiliary electrode corresponds to the second insulating pattern.